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## An Investigation of Attitudes of Candidate Teachers Towards Measurement and Evaluation Lesson Against Certain Variables

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### Abstract

Measurement and evaluation lesson has an important part in educating teachers. The attitude of candidate teachers towards this course also affects their efficacy. The aim of this study is to find out attitudes of the students in education faculty towards the lesson of measurement of evaluation and identify whether their attitude varies depending on sex, department of study and academic achievement. Target population of the study is comprised of senior students in Cumhuriyet University and Karadeniz Technical University. The study is carried out with students in Departments of Classroom Teaching, Elementary Mathematics Teaching, Science Teaching, Turkish Language Teaching, Art Teaching and Music Teaching. The attitude scale developed by Demirtaşlı (1997) was used for determining the participants' attitude towards Measurement and Evaluation course. It was found that attitude of candidate teachers towards Measurement and Evaluation course vary in favour of females. For the department of study, there is significant difference between attitudes of candidate teachers, the highest average score belonging to those in Science Teaching while the lowest to Turkish Language Teaching Department. Methods and techniques used for teaching Measurement and Evaluation in education faculties can be revised and improved.

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**Keywords:** Candidate teachers, measurement and evaluation, attitude.

### 1. Introduction

Teachers are the key element in education. Success of any education system relies on qualifications of teachers as well as the other education staff, who are responsible for running the process. There isn't a single education

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model which can produce better results than the quality of the staff to use that model. (Kavcar, 1999). Undoubtedly, quality of teachers is directly related with the process of educating teachers.

Measurement and evaluation, which is a component of education curricula, plays an important role by ensuring controlling of the education provided. Measurement and evaluation is needed to assess achievement of students against pre-identified objectives, to identify missing points in their learning and to monitor their level of development in the education process (Yıldırım and Karakoc, 2009). Measurement and evaluation activities constitute an essential component which reports to the authorities about problems and producing data regarding functioning of education as a whole (Demirtaşlı, 1997). Hence, measurement and evaluation is an indispensable part of education and instruction (Dwyer, 1998).

Teachers' ability of using measurement and evaluation principles in accordance with objectives of education shows their competence related with measurement and evaluation. Having a certain quality in measurement and evaluation is possible with timely and appropriate use of methods, techniques and principles in assessing student achievement (Erdogdu, 2010). Teachers should be competent enough to know and apply measurement and evaluation activities. To this end, they are taught "assessment and evaluation in education" at university (Kılınc, 2011). Using principles, methods and techniques of measurement and evaluation cannot be satisfactory with knowledge in this field only. Thus, it is possible to apply acquired proficiencies by having positive attitude towards assessment and evaluation (Erdogdu, 2010).

According to Sanford (1961), attitude is status of readiness to show positive or negative reaction to objects or symbols. For Katz (1967), attitude is a pre-thought status where individuals perceive a sign, an object, a human being or the whole world with all good and bad sides of them through her/his own system of values (cited by Tavsancıl, 2006). Ozguven (2007) defines attitude as an emotional readiness tendency that is revealed as accepting or declining a certain individual, group, organization or idea.

The aim of this study is to identify attitudes of candidate teachers in faculty of education towards measurement and evaluation as a lesson, and then to find out if such attitudes differ depending on gender and subject.

## 2. Method

In this chapter; method, study sample, data collection and analysis is explained.

### 2.1. Method and Study Group

Screening model was used in design of this study. Study population is comprised of students at fourth grade in Departments of Classroom Teaching, Elementary Mathematics Teaching, Science Teaching, Turkish Language Teaching, Art Teaching and Music Teaching during the 2012-2013 academic years in Karadeniz Technical University and Cumhuriyet University. Total 590 candidate teachers were included in the study. Demographic data of the participant teachers are given in Table 1.

Table 1: Demographic data about candidate teachers

Gender	f	%
Female	400	67.8
Male	190	32.2
University		
Karadeniz Technical University	342	58
Cumhuriyet University	248	42
Subject		
Music Teaching	38	6.4
Art Teaching	80	13.6
Elementary Mathematics Teaching	161	27.3
Science Teaching	75	12.7
Classroom Teaching	93	15.8
Turkish Language Teaching	143	24.2
Total	590	100

67.8 % of participant teachers are female, while 32.2 % is male. For university of education, 58 % of them are in Karadeniz Technical University, while the rest 42 % them are in Cumhuriyet University. As for their distribution by subject studied, 6.4 % of the participants study Music Teaching, 13.6 % Art Teaching, 27.3 % study Elementary Mathematics Teaching, 12.7 % Science Teaching, 15.8 % Classroom Teaching and 24.2 % study Turkish Language Teaching.

## 2.2. Instruments of collecting data

Demirtaşlı, (1997) “Attitude Scale of Measurement and Evaluation Lesson” was given to participants to identify their attitude regarding the course. Reliability and validity of the scale was checked before using. Prepared as four-item Likert type, the scale is comprised of 41 items. The scale was graded as “Strongly Agree = 4”, “Agree=3”, “Disagree=2”, “Totally Disagree=1”. Negative items were graded reversely. Cronbach Alfa coefficient of the scale is very high, which is .92

## 2.3. Data collection and analysis

All of the participant candidate teachers were given Demirtaşlı Cıkrıksı’s (1997) attitude scale on a volunteer basis. First Kolmogorov-Smirnov test was applied to collected data to check its normality, and the Levene test was applied to check homogeneity of variances. In comparison made by Gender, University Studied and Subject of Study, t-Test and One-Way Analysis (ANOVA) was used for Independent Variables due to the fact that both K-S and Levene test results show normal distribution. The differences among departments were found by using the Dunnett C test.

Grade intervals used in assessing the scale items were defined as “Strongly Disagree.....”, “Disagree .....”, “Agree ”, “Strongly Agree .....”.

## 3. Findings

In this chapter, findings obtained from the attitude scale for measurement and evaluation are given by gender and subject variable.

Table 2. t Test results of attitudes of candidate teachers for measurement and evaluation lesson by gender

Gender	n	$\bar{X}$	ss	t	p
Female	400	128.35	24.83	-3.568	.000
Male	190	120.72	23.09		
Levene 3.611	P=.058				

As seen in the findings in Table 2, there is a significant difference between attitudes of female and male candidate teachers regarding measurement and evaluation course [ $t_{(588)} = -3.568$ ,  $p < 0.05$ ]. Arithmetic mean of the participants on the scale proves more positive attitude among female students than males.

Table 3. ANOVA test results of attitudes of candidate teachers for measurement and evaluation lesson by subject

Subject	n	$\bar{X}$	ss	Variance Coefficient	Kar. Total	sd	Kar. Total	F	p	Difference
Music	38	119.76	26.21	Intergroup	59853,25	5	11970,65	23,747*	,000	Science-Music,Art,Maths, Class,Turkish
Art	80	123.68	19,06		294388,82					
Maths	161	132.00	25.47	Intragroup	354242,08	584	11970,65			
Science	75	146.12	20.30		59853,254					

Class	93	121.34	24.95	294388,82	589	Maths- Science,Class,Turki sh
Turkish	143	114.24	18.51			
Total						Turkish-Art
Total	590	125,89	24,52			
Levene=	7.951	P=	.000			

\*p<.05

As seen in Table 3, there is significant difference between candidate teachers' attitude towards measurement and evaluation lesson by department studied [ $F_{(5, 584)}=23.747$ ,  $p<.05$ ]. Dunnett C test results show that there is significant difference between students in Science Teaching ( $\bar{X}=146.12$ ), Music Teaching ( $\bar{X}=119.76$ ), Art Teaching ( $\bar{X}=123.68$ ), Elementary Maths Teaching ( $\bar{X}=132.00$ ), Classroom Teaching ( $\bar{X}=121.34$ ) and Turkish Language Teaching ( $\bar{X}=114.24$ ). Besides, there is a statistically significant difference between participants studying in Elementary Mathematics Teaching ( $\bar{X}=132.00$ ) and those in Classroom Teaching ( $\bar{X}=121.34$ ) and Turkish Language Teaching ( $\bar{X}=114.24$ ). Lastly, difference was found between students in Turkish Language Teaching ( $\bar{X}=114.24$ ) and Art Teaching ( $\bar{X}=123.68$ ).

#### 4. Conclusions and Recommendations

This study reveals attitudes of fourth grade education faculty students in Classroom Teaching, Elementary Mathematics Teaching, Science Teaching, Turkish Language Teaching, Art Teaching and Music Teaching towards measurement and evaluation as a course by university, subject and gender at Karadeniz Technical University and Cumhuriyet University.

By gender, female students have a more positive attitude ( $\bar{X}=128.35$ ) than males towards ( $\bar{X}=120.32$ ) measurement and evaluation lesson. Also there was significant difference between participants by their subject. [ $F_{(5, 584)}=23.747$ ,  $p<.05$ ]. The highest attitude grades were obtained by students in Science Teaching ( $\bar{X}=146.12$ ), whereas the lowest grades were obtained by those in Turkish Language Teaching ( $\bar{X}=114.24$ ).

Measurement and Evaluation is crucial as a course for prospective teachers. If they have positive attitude towards measurement and evaluation, their level of using in-class assessment methods and techniques will be improved. In the light of the study findings, way of teaching Measurement and Evaluation lesson can be revised at university level, and more varied methods and techniques can be used. In particular, certain methods and techniques that are likely to improve the attitude for measurement and evaluation can be applied for male students and departments with a lower level of readiness. As a result, it might help candidate teachers to improve their attitude towards Measurement and Evaluation lesson.

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